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Telefunken- Modcomp link

THE West German joint venture company between AEG-Telefunken (75%) and Modcomp of Florida (25%) is to be called ATM Computer GmbH and will be based in Munich. Digital Equipment's former Central European manager Helmut Coquill has been appointed president.

The new company will develop, manufacture and market minicomputer systems, and will start with Modcomp's Classic line and AEG-Telefunken's 80/20, 80/40 and 80/60 process control computers (October 25, 1980).

This can handle fixed, format-

ted, or free text; at the House of Commons it will be used with a controlled indexing language that has already been compiled.

The online service will be supplementing nine different strip indexes that are currently in use in the Commons library (CW, February 29). Following Parliamentary Questions will be the first category of information to be loaded on to the system, giving MPs for the first time a subject index to Questions.

When the system is fully operational about 100,000 references will be added per year. It is hoped to start live working in the autumn, in time for the new session of Parliament.

The system has been organised to be compatible with future developments in Parliamentary computerisation. These might include word processing, access

to outside databases and retrieval of full text from Hansard, which is now switching over to computer typesetting.

A computer and technical services section has been set up to run the system, headed by Jane Wainwright, formerly a researcher with Aslib, the special libraries association.

No attempt will be made to load data on to the system retrospectively, and so it will have to be used in conjunction with the strip indexes for some time.

About 45,000 Questions are tabled each year. The systems will be expandable up to 30 terminals.

Called M9000, it operates closely in accordance with the expected International CCITT Group 3 recommendation for digital transmissions of under one minute.

At £8,900, the transceiver is about five times the price of 3M's M2348 launched in Europe 18 months ago. The firm says it is cheaper to use for over 50 transmissions a day within one country or 14 internationally.

Faximile transceivers were still too expensive to replace the postal service, said 3M's market development manager Mike Cook, but the UK market was currently growing at about 24% a year.

Siemens boost

SOFTWARE to enable terminals to communicate with both Siemens and IBM mainframes is to be developed by DFVLR, the West German space agency. The system will provide a bridge between SNA and Siemens Transdata terminals, and is regarded as a strong plus for Siemens since the West German government is encouraging its agencies with IBM machines installed to add Siemens machines where they need more power.

Macroprinters Microprices

Looking for dot-matrix printers costing a lot less than you budgeted for? Stop looking.

These three from Anadex not only offer lower initial cost, but also provide substantial savings on servicing.

For around £500, the Anadex DP-8000 provides 80-column printing at 112 characters per second, 84 lines per minute; switch-selectable baud rates from 110 to 9,600; 100M character head life; three standard interfaces (RS-232C, current loop and parallel bit); vertical tab, form feed, skip-over perforation controls; adjustable sprockets for any paper size; self-check diagnostic test facility; 1K character buffer standard with 3K option.

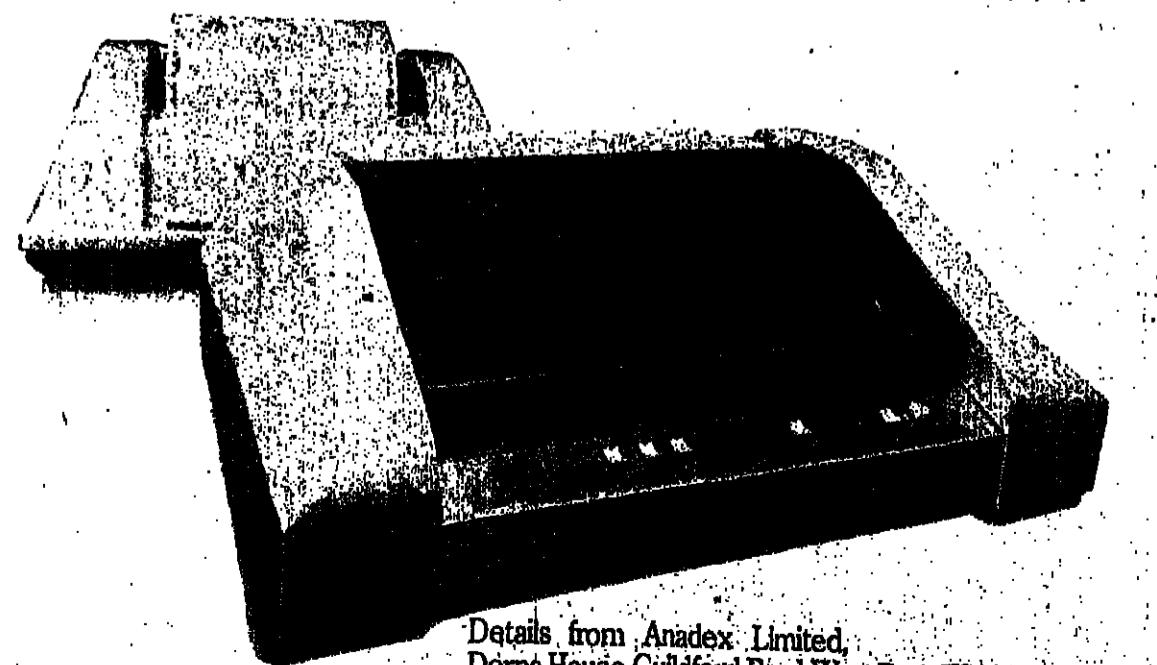
For a little more, the Anadex DP-8000AP Apple-compatible version provides the

required 96-column printing at 134 characters per second, plus all the features of the DP-8000 described above.

At less than £900, the new Anadex DP-9500 offers up to 220 character line width, with maximum printing speeds of 200 cps or 200 lpm; 150M standard or 650M optional character head life; 11x9 dot matrix capability; 'look ahead' bidirectional printing, 500 character buffer with 2.5K option, full graphics potential; communications control capability; vertical and horizontal tabs..

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Number 702

Thursday, April 17, 1980

Price 20p

3M's last chance in the office?

GEC delays cash for Inmos

A REQUEST for general information about Inmos has been put to the National Enterprise Board by GEC, and talks have been opened in the UK. A digital facsimile transceiver capable of transmitting an A4 page in under one minute.

Called M9000, it operates closely in accordance with the expected International CCITT Group 3 recommendation for digital transmissions of under one minute.

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Datasaaab talks?

TALKS terminated in January between ICL and Datasaaab on an OEM agreement for Datasaaab's banking and Alfaskop display terminals have given rise to speculation that the Swedish company is up for sale.

Datasaaab denies this, although a possible equity stake was discussed at the talks.

Troubled issue

WE apologise to our readers and advertisers for the absence again of some regular features and for the reduced news coverage in Computer Weekly. The problem was caused by circumstances beyond our control.

Upwards compatibility with the BC/7 and the facility to run all the new software on existing 90/25, 90/30 and 90/40 hardware at no extra charge are the key features of the Univac System 80.

The new 16-bit System 80 processor is based on Emitter Coupled Logic, a fast technology unusual at the lower end of the market.

Two models, 3 and 5, are offered, the 3 matching the power of the 90/30 and the 5 offering 55% more power, the difference being that the smaller model has 16K 32-bit words of microcode and the larger 16K 64-bit words.

Hardware improvements include the addition of more intelligence in peripheral controllers, channels, line controllers, and the introduction of a main storage processor and work station controllers.

Two new disc drives, a 118-megabyte fixed device and a 72-megabyte exchangeable drive are offered, with one of the fixed

• Turn to back page

French terrorists attack computer firms

TWO French terrorist groups are claiming responsibility for attacks on computer companies in Toulouse last week in which one machine was totally destroyed by fire and another was seriously damaged.

First terrorist contact came from a group calling itself Direct Action, which said it had burned stored computer programs and sabotaged a computer at Philips Data Systems' office in Toulouse because it was being used to process information for the French intelligence service and armed forces. Philips has denied this.

Direct Action also claimed that it had

and their contents to convince the police of the authenticity of its claim.

In a message delivered to the newspaper Libération, Clodo said: "We are workers in computing and therefore in a good position to know the present and future dangers of computing and telecommunication."

"The computer is the favourite tool of tyrants. It serves to exploit, to control and suppress."

The Toulouse police also believe that Clodo has been keeping local IBM offices under surveillance since the beginning of March.

Univac, Honeywell reply to System 38



Mike Lynch, marketing manager of Texas Instruments' European Consumer Division demonstrates the company's talking home computer, which is described in more detail on page 11.

Small firms plan to fight US dominance

AN association of European manufacturers of small computers, peripherals and software products has been formed to help fight off US and Japanese competition, to try to equalise trade barriers with the US, and to make co-operation and trade within Europe easier.

Called the Association of the European Independent Information Industry, the group is being launched next week at Hanover Fair with the sponsorship of the European Commission.

Hugh Pushman Associates Limited has recently announced ABCS (Automated Business Communications Systems), a product that provides store and forward telex, store and forward fax, message switching and electronic mail starting at under £10,000 for a system.

Hugh Pushman Associates Limited has an increasing demand for analysts and programmers with real-time technical computing experience. Applications are invited to fill positions in UK and abroad. For further information, contact:

Robin Wilkinson, Marketing Manager
Hugh Pushman Associates Limited

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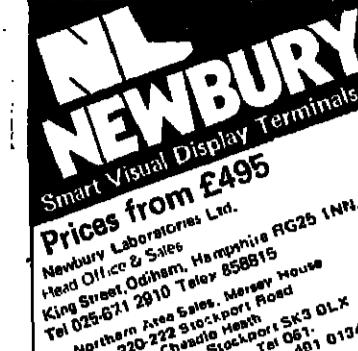
Yoghourt goes better with chips

"The savings and opportunities provided by the introduction of our new system are enormous". That's the view of Fred Finlayson, Manager of Management Services with Express Dairy Foods. The new distributed processing system is one of the most ambitious in the country — with a total of 27 minicomputers serving 13 factories and 27 distribution depots. It will help express get more dairy goods — like its Eden Vale products — to the right place at the right time.

Data Logic is implementing the project under a turnkey contract. That means software development, supply of computers and project management. It even, in this case, means the development of special communications hardware based on microprocessors.

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**2900 users
form Euro
club for
all makes**

A EUROPE-WIDE society for users of all types of computer, called the European Computing Club, has been set up by the organisers of the 2900 Club. The latter already has a handful of members from other parts of Europe and its membership is not restricted to users of ICL 2900 machines. It is intended to be genuinely pan-European and not based on one manufacturer.

The chairman of the 2900 Club, Alan Boyce of Trust House Forte, told Computer Weekly that the first meeting of the European Computing Club would probably take place in about a year, probably at Munich. One likely topic to be covered would be trans-border communications, a subject thought to be of interest to a Europe-wide delegation.

Boyce stressed that the new club had no links with the Conference of European Computer User Associations, CECUA, of which the UK member is the National Computer Users Forum.

CECUA is very much a political body, being recognised by the EEC Commission as the official mouthpiece of computer users in the EEC, while the European Computing Club will avoid political involvement, according to Boyce.

Meanwhile, the 2900 Club is still going strong and has just changed its status to that of a limited company. The next meeting will be on October 6 in London when subjects to be discussed will include linking ICL machines to other makes of computer.

The savings and opportunities provided by the introduction of our new system are enormous". That's the view of Fred Finlayson, Manager of Management Services with Express Dairy Foods. The new distributed processing system is one of the most ambitious in the country — with a total of 27 minicomputers serving 13 factories and 27 distribution depots. It will help express get more dairy goods — like its Eden Vale products — to the right place at the right time.

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COMPUTERVIEW

'Go, and do thou likewise'

If the British sometimes find it difficult to understand the French, the Americans find our neighbours across the Channel equally impenetrable.

The effectiveness of France's protective policy with regard to the computer industry is underlined by a hurt and baffled piece which appeared in the Wall Street Journal last week.

In it an IBM spokesman comments that the company's share of the French government market has declined from 37% to 26% over the past five years and attributes this to government support for CII-Honeywell Bull. He goes on to say that no protest has been made to the government, since "as they say in the French Foreign Legion, things could always get worse."

Companies are quoted as saying that French government interference is extremely arbitrary, some deals being allowed to go through while others, apparently similar, are blocked.

Most striking is the view attributed to the head of Univac, Jacques Dumas, who says that the best course for US companies seeking a French base is to become a minority partner in a joint venture with a French company, in which case they would qualify for grants, cheap loans and subsidies.

"It's better," he says, "for an American company to get 49% of the profits and dividends than to be shut out of the market entirely."

That comes pretty close to being a counsel of despair — and it comes from the head of the one company which has successfully sued the French government for interfering when a steel company wanted to buy Univac and

was forbidden to do so. Univac picked up a \$1.2 million cheque for damages.

Yet the US government does not seem to have taken any retaliatory action: which European country exports the greatest value of computers to the US each year? That's right: France, with the CII-Honeywell Bull Level 64.

It is also noteworthy that since CII-Honeywell Bull was formed in 1978 it has elected to manufacture the Honeywell Level 6 minicomputer and Level 86 and DPS 8 mainframes in France, whereas Honeywell has yet to start manufacturing a significant product of CII-Honeywell Bull origin in the US.

Clearly ICL is at present doing far too well for a full-scale partnership with a US company to be appropriate, but the British minicomputer industry might well have benefited from a direct US link.

There is one area where Britain has little to learn from the French, and that foreign investment.

It is fashionable in some quarters to regard foreign investment as the work of the devil, stealing capital and

jobs from the British work-force. That this need not be so is amply demonstrated by two British companies, ICL and Racal.

In 1978, ICL acquired the international operations of Singer in one of the best foreign investment deals yet made. The company has since installed more System Ten computers than Singer did, and in about half the time. And the vast majority of those sales, a large proportion made overseas, were filled with System Ten computers made in England. Had ICL not made the investment, the chances of those computers being built in the UK were almost nil.

The company still builds the smaller 1500 in the US, as a means of demonstrating its commitment to the largest computer market in the world, and in order to have some kind of entrée to US government business, effectively quarantined from imports by the Buy American act.

A year or so later, Racal acquired Milgo Corp of Florida, and has just announced that Milgo products are to be built in the UK — 23,000 modems in the first year. There is very little likelihood that these devices would have been built in the UK had not Racal taken over Milgo.

Far too much time and energy is wasted in the UK on reiterating sterile dogmas. The only sensible reason for doing anything in a particular way is because it can be demonstrated that it works. The French experience, the achievements of ICL, of Racal are only three of scores of blueprints for success which exist. The Biblical exhortation "Go, and do thou likewise" seems appropriate.

LETTERS to the EDITOR

Flying the US flag

Work together

WHAT staggering news the British National Enterprise Board supports financially a US based company from New York, Q1 (CW, March 27), when right on the doorstep in good old Middlesex is a small private enterprise company actually finding its own cash, to make an "almost British" range of nine dual-disc, 20BA, 64K microcomputers complete with a daisy printer, and all-British business software for under £8,000.

So we only supply the UK Atomic Energy Authority, universities, and businessmen, and are not yet selling to NASA. But what magic is there in that?

We, too, have a central disc store. We also have multi-user software, and a portable suitcase microcomputer with flat screen, as well as packet switching networks with protocol converters for any machine to communicate with another.

Unfortunately we are all-British, without the glamour of New York. We don't ask favours or sell short. We appear at Compex once a year and support all

our customers for the rest of the year.

The Q1 news makes it almost worth considering joining up with a US glamour name and just forgetting all about "getting it going in Britain."

Can somebody just tell me why entrepreneurs are trying, when the NEB just keeps up imports?

A. B. CLARKE
Managing director
Haywood Electronic Associates
Northwood, Middlesex

I WOULD like to endorse the comment by C. H. Sayer (CW, February 28) that auditors and DP professionals should work together in this important area.

The Institute of Internal Auditors is anxious to contribute and to co-operate in this important field of computer auditing. The Institute's London District held a joint seminar with the British Computer Society's audit-by-computer group last month on the subject of current computer audit topics. The meeting drew a record attendance of members and non-members, registrations

totalling up to 104 persons. We hope it will be the forerunner of closer co-operation in the future.

It is clear from the response to this seminar that there is a widespread seeking for knowledge on computer auditing, and the Institute of Internal Auditors will certainly be striving to make its mark by doing all it can to meet the needs in this important area.

HAROLD HALSEY
Chairman, London District
Institute of Internal Auditors

Impact of Databank

I REFER to Stephen Bell's article on New Zealand's Databank bank system (CW, January 10) and the comments subsequently made in your letters column by J. D. Driver (CW, January 24), about the New Zealand Post Office's savings bank terminal installation.

Unfortunately it has not proved possible to establish the authenticity or otherwise of the "source close to Databank" on which the latter's conclusions expressed in Driver's letter are based.

The New Zealand Post Office is certainly to be congratulated on the success of its installation. However, a meaningful comparison of cost per transaction would be difficult to achieve.

Databank supports a major trading bank environment covering a wide spread of financial activities, of which savings bank support similar to that provided by the Post Office represents only a small percentage.

There is also a reduction in competition for the employment of a co-operative method of processing for the entire commercial banking industry far outweigh the disadvantages.

Driver is incorrect in stating that the marketplace is static. Governmental controls have been significantly relaxed in recent years and the atmosphere is intensely competitive.

Furthermore, the existence of Databank has increased rather than diminished competition by freeing scarce human resources

timesharing functions are available throughout New Zealand.

The Databank telecommunications network operates 24 hours a day and was designed primarily for the high-speed transmission of bulk data between distributed processors and large central machines handling the databanks. The branch terminal system shares the same equipment and transmission lines and, while large by comparison with other New Zealand entities, represents only a small proportion of the total data moved. Extremely efficient use of transmission facilities is obtained.

Naturally a co-operative venture by strongly competing members will attract adverse comment. Individual instances undoubtedly exist where a go-alone policy might appear to yield better returns, particularly in the short run. In a small country such as New Zealand, however, the overall advantages of a co-operative method of processing for the entire commercial banking industry far outweigh the disadvantages.

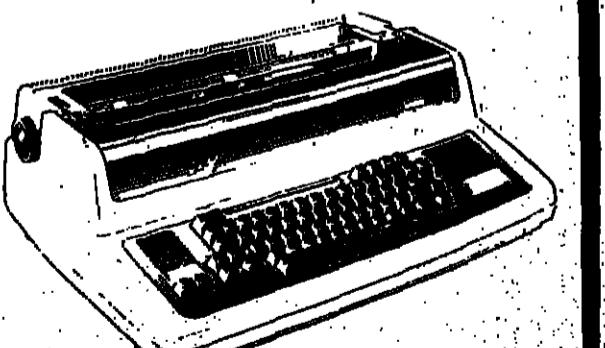
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1984 and all that...

THIS week's example of the strange things people say in the media about computers was sent in by J. H. Wessel of Loughborough, who wins £5.

BEWARE OF THE MICRO-CHIP MUGGERS!
Can you imagine what it would be like to go up to say your wages and the handing over of the money consists of passing your card through a programmer?

Doughborough Echo

EMI pulls out of voice recognition

jobs from the British work-force. That this need not be so is amply demonstrated by two British companies, ICL and Racal.

In 1978, ICL acquired the international operations of Singer in one of the best foreign investment deals yet made. The company has since installed more System Ten computers than Singer did, and in about half the time. And the vast majority of those sales, a large proportion made overseas, were filled with System Ten computers made in England. Had ICL not made the investment, the chances of those computers being built in the UK were almost nil.

The company still builds the smaller 1500 in the US, as a means of demonstrating its commitment to the largest computer market in the world, and in order to have some kind of entrée to US government business, effectively quarantined from imports by the Buy American act.

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so

Downtime

by Chad

Twisted comms

WE are all in the information business, right? Communication is what computers are all about, agreed? Then why do you suppose so many of our colleagues seem to treat writing as a sort of latter-day Battle of the Somme?

I publish an occasional column of gems of obfuscation, but for a long time I haven't seen anything as baffling as this piece, sent to me by Mike Taylor of Stewart Wrightson Management Services. It is from International Business Equipment, and is by one Linda Tilton, a vice-president of Format Systems Inc. of Chattanooga Tennessee.

Word processing centres have growing pains . . . There are five principal causes of growing pains individualism in operators, coordination of machine models, originator-operator radio, personnel turnover and expansion of boilerplate. When the centre is small, these areas can be handled informally and solution shared verbally. Later, the need to impose discipline and communicate efficiently becomes necessary.

I am glad to see from the last sentence that Ms Tilton agrees (I think) with the principle of what I say, even though she

"Welcome aboard Spam Computers — would you like a watch or a cheque as your leaving present?"



By any other name

READERS may sometimes be puzzled at the way IBM code names for forthcoming products mysteriously change and evolve. For example, the Whitney megajumbo disc drive is now confusingly being called Coronado by the cognoscenti, while the Intrepid streaming tape drive has changed to Ocarilla. The four or five models of the H-series, or should I say, Adirondack, have had at least ten different model names troquois, Marcy, Sen-

Spooky

A READER, Alex Goodall, has pointed out to me this job advert in the Observer, placed by Westinghouse Electric Systems Software Engineers. Applicants should have a degree in Electrical Engineering and appropriate experience . . . Other technical degrees such as Applied Physics will be considered.

Mr Goodall comments "If such appointments are at all commonplace, it could explain the irrational behaviour of many computer systems."

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(052) A member of the Dickinson Robinson Group

GILB'S MYTHODOLOGY

Towards a natural menu-driven language...

I WOULD like to share some interesting results of recent IBM research into programming and program design. Here I can give a brief idea of the many ideas and their background, but the report is available on request.

The one I refer to here is, Lunc Miller's Behavioral Studies of the Programming Process (IBM RC 7367, 72 pages). The research was performed at the IBM Thomas J. Watson Research Lab in New York by a large research team.

To get some overview first:

the report has something to say about increased naturalness of the person-to-computer interface; the effectiveness of various logic structures in logic design and programming — effectiveness for understanding by people; new types of program maintenance documentation; and automated aids for design specification.

The research was funded by the US Office of Naval Research's engineering psychology programmes. Let us, for the purpose of this column, concentrate on the results and recommendations.

"The most significant finding from the command usage analysis was that text-editing commands accounted for over three-quarters of all the commands issued . . . This might suggest that much of the editing is due to correction of errors which more powerful language analysers could detect and help pinpoint accurately.

"We recommend that 'semantic checking' facilities be developed for use within language processors to aid in the detection of these conceptual errors, paralleling the facilities for detecting syntactic errors."

The study ascertained that "control specification" — that is program decision points — are a "high-probability difficulty factor".

They tested a number of alternative methods of expressing program control being made in the computer sciences literature in favour of the IF (then ELSE) structure. "We found that this was the most difficult technique to learn and to use correctly."

The constructs found superior

were called BRANCH (one-dimensional lists) and FLOW (graphical specification).

Next a "PROCEDURE TABLE", similar to the above mentioned BRANCH structure, was tested. Its structure is "similar to a 90-degree rotated) decision table."

Even though "participants experienced difficulty in using decision tables" the PROCEDURE TABLES performance was found to be significantly superior to that with the other types of control structures, with perfect performance found in almost all conditions over all

problems, and further the provision of this tabular structure was of key importance in assisting performance (see Table 1).

The Miller report recommends that structured technique like the procedure table be used for program coding under certain conditions which they "estimate that a large proportion of the programming tasks in businesses, governmental services, and the armed forces, would meet."

They also note that a "menu" of conditions should be provided by the system, rather than

Database inquiry languages were examined as well as proce-

LABEL	CONDITIONS	ACTION(S)	GOTO
A1	TEMP TOO LOW?	PUSH "HEATER ON" AND WAIT 1 MINUTE	A1
		PUSH "HEATER OFF" AND WAIT 2 MINUTES	A1

Table 1. The procedure table concept.

allowing people to specify conditional logic in their own terms directly.

The reason for this was the discovery that many errors were due to natural human logic specifications which could not be correctly interpreted by the relatively inflexible data-base query systems or compilers.

The menu is a way of informing people about valid language constructs, without training them in advance, and without trying to solve the problem of all frequent human variations of logic specification.

On the other hand, the conceptual framework left much to be desired from my point of view, since one of the recommendations was further study of a number of popular design methods (key names: Mills, Myers, Yourdon, Teichroew) in such limited context that I suspected that Miller et al did not recognise that these are, at best, fixed methods for logic specification and delineation.

Rarely do any of them address fundamental design issues at higher levels of architecture, such as the problem formulation and environmental and technique attributes already identified by Miller as fundamental to the design process, for example, 'Find all those who . . .'

To make a long story short, contemporary program logic, such as structured and indented GOTO-less algorithms, are not the natural way of expressing program logic.

This confusion between

10 years ago
From Computer Weekly of April 16, 1970

A FURTHER setback to the hopes of European co-operation in the computer field occurred when Siemens and AEG-Telefunken said they would be setting up their own co-operative venture.

Siemens launched a range of alphanumeric video terminals after a £1 million investment in the project . . .

The Northern Ireland Ministry of Finance signed an order worth £320,000 for a second ICL 1904A with random access . . . A new UK firm, Database Ltd, formed to make and market small computer systems, was a subsidiary of import and export merchants William Jack & Co . . . The trade association Cobsa decided to form a section for software houses . . . ICL had won 20 more orders for 1900 and System 4 kit from local authorities during the previous two months.

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Tom Gilb is an independent consultant, lecturer and author on computing topics.

Calcomp throws in anti-trust towel

AFTER nearly seven years of struggle, Calcomp has effectively thrown in the towel in its anti-trust contest with IBM.

Calcomp's new parent company, Sanders Associates, has decided not to appeal to the US Supreme Court against last year's decision by the Ninth Circuit Court of Appeal that confirmed the verdict in favour of IBM passed in the original trial more than three years ago.

Following Calcomp's defeat Kilpatrick was voted out as chairman (CW, April 21, 1977). Last November he began an action to stop the takeover of Calcomp by Sanders under the terms offered by Sanders, but failed to stop the acquisition which was completed on February 20.

Calcomp is now mostly de-

voted to computer graphics

having dropped out of the IBM

compatible peripheral busi-

ness some years ago and hav-

ing sold its operation manufac-

turing big OEM disc drives to Xerox.

Calcomp dramatically ex-

tends the range of graphics pro-

ducts already manufactured by Sanders Associates.

Sanders dropped its own \$255 million anti-trust action against IBM early in 1977 in return for a \$10 million development contract from IBM. The Sanders case charged IBM with damaging its one-time subsidiary, Sanders Data Systems, by temporarily withdrawing support for 2280 video terminals.

IBM's first major anti-trust victory was against Telex five years ago and in 1978 the Memorex action against IBM ended in a mistrial after the jury failed to reach a unanimous verdict. The judge then issued a directed verdict in favour of IBM.



Systime moves into new Dublin offices

Systime's marketing company in Ireland has moved into new Dublin premises which were opened earlier this month by the director-general of the Irish Management Institute, Ivor Kenny. He is seen here flanked by two top men at Systime, managing director John Gow (left) and chairman John Parkinson. The new premises will house 20 staff whose activities will include supporting the 14 customers picked up by Systime in Ireland since it set up there two years ago. Customers for Systime's turnkey systems include the Irish Times and Shell Chemicals.

Lottery boost for Burroughs

THE French Loto National, a division of the national lottery, has given Burroughs one of its biggest European orders. Two large-scale B7800 mainframes are to be installed, one in Paris and one in Marseilles to capture "jeux" as they are made in real time. Loto National is a gambling game in which the player buys a card, writes down his own numbers and hands it back to the seller, usually a tobacconist.

Special terminals are to be developed by CSEE, Compagnie de Signaux et d'Entreprises Électriques and, if a pilot project with 100 terminals proves successful, it is planned to equip all 6,000 points of sale.

This new Prime System has been designed to improve the productivity of managers, secretaries, clerical and technical staff of large commercial and industrial organisations. It has already revolutionised procedures in national and international businesses.

Prime's Office Automation System will run on any Prime 50 series computer. It combines the features of word processing, comprehensive electronic mail, document management, administrative support, and text management with the routine data processing of an advanced business.

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PEOPLE and EVENTS



Senior appointments at Data Logic

WITH the restructuring of Data Logic's professional services division, several senior appointments have been announced. This follows the company's acquisition last year of Square One Computer Services.

The appointments include those of Richard Greengrass and Robin Davies who both become Base Ten Systems, where he will be responsible for all aspects of development and design engineering. He has been with the company for four years, his most recent position being that of principal design engineer.

Derek Alway, a co-founder of Square One, also becomes a regional manager and Jim Philip is appointed business development manager.

Another co-founder of Square One, Paul Hill, assumes the position of services manager.

Bob Pike has joined CMC as a salesman in the company's new business marketing group. He previously worked with Automatic Data Processing.

Roger Main has been appointed sales manager for DRG Systems Supplies.

Ian Stewart, formerly a salesman with Systime, has been chosen to head the launch of Qantel computer systems in Scotland for General Computer Systems.

Frank Patterson has become major accounts executive with Vydec part of Exxon Information Systems.

DIARY

APRIL 23

The European Commission's System machine translation system, BCS Natural Language Translation Group, King's College, London, 18.00.

Towards a branch-and-bound algorithm for the one-dimensional strip problem. BCS Mathematical Programming Study Group, London School of Economics, London, 18.30.

The applications of process computers in the oil and gas industries. BCS Process control specialist group, Waldorf Hotel, London, 10.00.

Participative design—a constructive appraisal. BCS Human Aspects of Computer Usage Specialist group, Bloomsbury Centre Hotel, London, 09.00.

IBM CUA Series I group. IBM Havant and Royal Beach Hotel, Southsea. Tel. 01-351 1643.

MAY 12

Visit to a computer centre. BCS

APRIL 24

Cheltenham and Gloucester branch. Details from committee members. Members only.

The future of mainframe computing. BCS East Anglian branch, Red Lion Hotel, Norfolk, 19.00.

APRIL 24

Display systems in TV productions. AGM, BCS Design group, City University, London, 14.00.

Computers and society, and AGM. BCS Bristol branch, St Vincent Rocks Hotel, Clifton, Bristol, 19.15.

AGM and Sherry party. BCS Edinburgh branch, Heriot-Watt University, Edinburgh, 17.30.

APRIL 25

Computer arts review and AGM. BCS Coventry branch, Burnt Post Hotel, Kenpasse Highway, Coventry, 19.30.

APRIL 26

Interactive programming in Cobol on the IBM 8100. BCS Cobol Specialist Group, Polytechnic of Central London, London, 14.15.



Honeywell to sponsor concert

THE first performance of a new flute concerto by young British composer Nigel Osborne is one of the highlights of a South Bank concert to be held on May 28. The concert is sponsored by Honeywell Information Systems.

Other works to be performed at the concert include Symphony No 22 by Haydn and Flute Concerto No 2 by Mozart. The concert will be given by The City of London Symphony conducted by Richard Hickox.

Andy Lowe has been appointed sales manager for Monotype Communications' new hotel division. Lowe has been involved with many aspects of the catering industry, and while studying for his degree in business administration made a study of marketing strategies of UK electronic companies in association with Butler Cox and Partners.

Neil Kennedy has joined Compedia as computer manager.

He was previously systems manager at the Science Research Council.

John Lawson has become data centre manager for GMS Computing. He was formerly in charge of GMS' technical support.

Pike

Windmill

Collins

Greengrass

John Collins has joined Data Translation from Tektronix where he was a sales engineer. He will now assume a similar position and take responsibility for the development of the company's sales programme.

Bob Pike has joined CMC as a salesman in the company's new business marketing group. He previously worked with Automatic Data Processing.

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Ian Stewart

OP SPOT

Courses that suit both operator and installation

IT is an unfortunate fact of the typical operator's life that he gets very little in the way of formal training and courses.

He is expected to acquire his skills in the computer room by watching and putting questions to his senior and more technically able colleagues.

The typical operations manager isn't much help, either. On requesting some formal training, the operator is told that the site can't afford to give him time off and that the manufacturer's courses don't really fit the installation's needs.

What these managers often fail to mention is that certain companies do run courses which meet the needs of operator and installation alike.

BOC Datasolve, for example, provides a series of courses relating to IBM and ICL hardware and software. Alan Peck, who is head of operations and software training at Datasolve's customer service centre in Old Park Lane, told me:

"The courses are for customers' staff and our own people. Most of the courses run here at the centre are five days long. We usually limit them to 12 students per course."

"We also do on-site specials — one of our tutors will go along to the customer's site to find out exactly what they need. He will then spend a couple of weeks setting it up before going back and running it at the installation.

"Then we do a course for beginners. The students get a week's theory, then spend a couple of days at our Oxford Circus site under the supervision of a tutor, learning how to load printers and mount discs."

"On the first such course the assistant tutor will observe, on the second he may fill in on one or two sessions, and on the third he might take the students for an entire day."

After four months or so at the centre he will carry out a course of his own, probably under the supervision of a senior colleague. He will be made up to the position of tutor after a year or more.

Turner became interested in training during his days in operations. On the ICL side, they run a 1900 to 2900 conversion course, 2900 basic and advanced, 2900 system control language, and a 2900 telecommunications course will be available from May.

The IBM courses fall into two categories operations and software. The operations courses lean heavily towards theory, and cover MVS basic and advanced, 370 hardware and software concepts, and an IBM-biased course on TP concepts.

Said Peck: "In the MVS basic operations course we go over the history of operating systems, showing how and why they have developed. We also show how jobs go through the system, explaining about the reader, initiator and writer procedures, and discuss the use of systems commands."

The MVS advanced course covers such matters as the theory of virtual storage, job re-starts, dump cracking and the basics of the IBM Assembler programming language.

"Assembler tends to be the most popular part of the course. It gives the operator a deeper understanding of how the machine works."

The software courses — OS/VSI job control language, OS/VSI utilities and VSM — include more practical work, jobs being submitted via RJE to an Amadai 470/V6 at Datasolve's site in Sunbury. "OS JCL is our most heavily subscribed course. It includes the punching and running of one, three, five and six step jobs. Generation data groups are included."

"We submit jobs through RJE. The course tutor checks each job before it's submitted to the system."

The course has six tutors, four IBM and two ICL, who are recruited at technical support and shift supervisor level. In addition to having technical expertise, they must also be able to put ideas across to about 10 people at a time.

Said Peck, "We recruit from the outside as well as internally. Our own courses give us the opportunity for talent spotting if needed."

"Eighteen months or so ago we had trouble finding tutors, but not any more. Now we get people contacting us, asking for jobs. We've got a waiting list of three and they are at shift supervisor level."

Applicants undergo what Peck describes as a "baptism of fire" they give a test presentation under the discerning eyes of experienced tutors.

Said Peck, "Some people are very articulate in a one-to-one situation but dry up in front of a group. Most people rise to the challenge."

Trainees, or assistant tutors, as the new recruits are called, attend any ICL or IBM courses they need, and go on a presentation course run by the British Association for Commercial and Industrial Education.

Chris Turner, an ICL tutor who has been at the centre for some 18 months, told me: "On the BACIE course they tell you to talk clearly, be as natural as possible and make sure the students understand what you're trying to explain."

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by Bernard Allen



Nowhere to go at tea-break

"IT was good to see you telling us operators to take as many breaks as possible during the evening and night shifts (CW, February 14).

"The problem is that we have nowhere, aside from the manager's office, to spend such breaks. What do you think of that?"

So writes an operator who works at a small installation. The day and evening shifts present no problems for the operators — they get some food and liquid refreshment in the public house nearby. But on the night shift, it's a choice of bring your own food or starve.

In my opinion, it's important that the operators have somewhere to rest and eat their food. It should be as far away from the noise and bustle of the computer room as possible. Why not ask to use the canteen facilities on evenings and nights as well as the day shift?

Peck told me, "Every now and again they spend a few weeks working in an area such as technical support. It keeps them in touch with developments and sharpens their skills."

"We had had several senior operators and a lot of trainees, but no one between those levels.

"At first I did most of the training hands-on in the computer room. But later on it became more formalised. I find that teaching is a good way of consolidating and adding to

the knowledge."

According to Turner, the tutor tries to find out as much as he can about the students before the course and treats them as individuals.

"You've got to know each student's level of knowledge and what they hope to get out of the course."

The tutor must keep in touch with what's going on in the industry and does so in several ways.

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Peck told me, "Every now and again they spend a few weeks working in an area such as technical support. It keeps them in touch with developments and sharpens their skills."

"We had had several senior operators and a lot of trainees, but no one between those levels.

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The closing date for receipt of completed application forms is 30th April, 1980.

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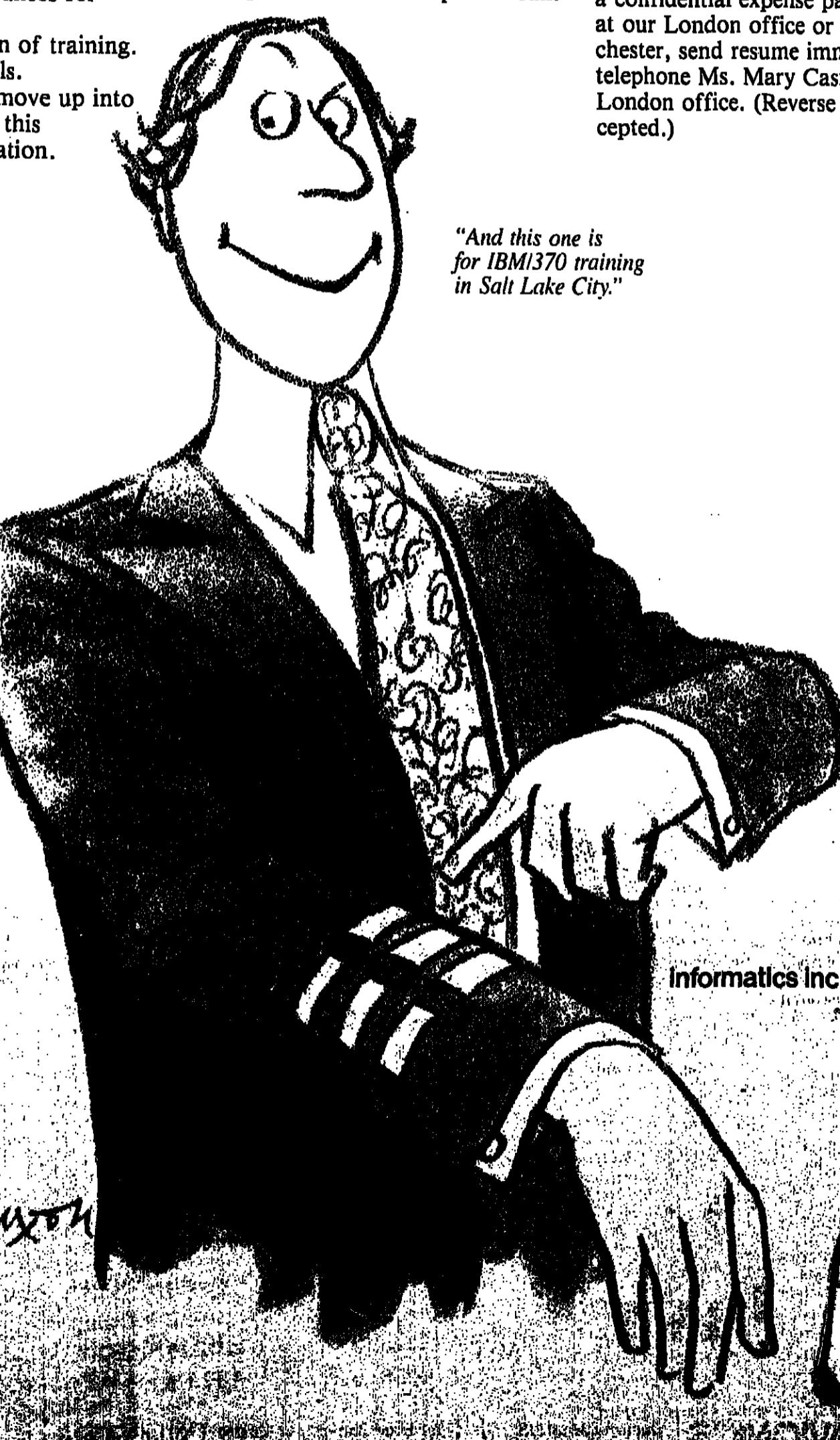
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Contact: Jim Baker

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Contact: Andy Wright

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Contact: Andy Wright

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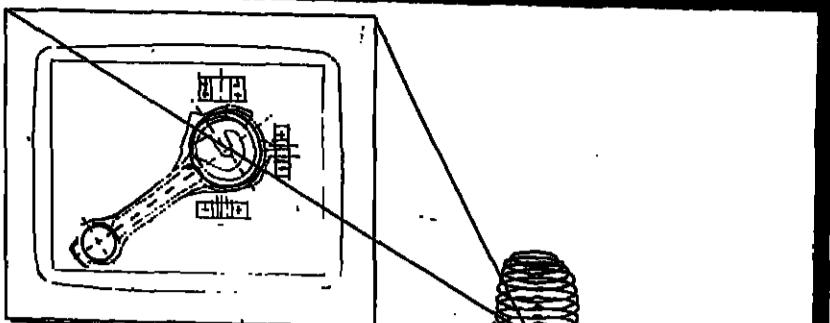
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KUWAIT AIRWAYS

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For more information, ring Roger Kinsey in the strictest confidence today on 01-388 6441, or write to him with full career details, quoting ref: CW/1 to: Nationwide Advertising Service Limited, Clifton House, Euston Road, London NW1 2RA

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The University wishes to establish a Micro-processor Support Service within the Computer Centre to encourage and support the use of micro-processors within University Departments. It is seeking an

Experienced Electronics Engineer

To lead this new development in the computing service. The person appointed will be responsible for providing a consultancy service to user departments, the provision of courses on the principles and practical applications of micro-electronics and for ensuring that adequate programming, testing and diagnostic facilities are available to support those micro-processor systems in general use within the University.

Applicants should hold a degree in engineering, electronics or an equivalent qualification and preferably have some experience in the design and implementation of micro-processor systems. Some knowledge and experience of software systems and data communications techniques is also highly desirable.

The salary for the appointment will be on the scale Grade 1A: £3,052-£8,769 p.a. or Grade 1B: £4,271-£10,484 p.a. (depending on qualifications and experience).

Further particulars may be obtained from the Registrar and Secretary, University of Bristol, Senate House, Bristol BS8 1TJ, to whom applications should be sent by 9th May, 1980 (please quote reference EB).

1527



TRAINEE/OPERATOR/ SENIOR OPERATOR

(£3,813-£8,258 Inc. plus 12½% two shift allowance — comparability award pending)

Required for 2.75 MB ICL 2960 running under VME/B and GEORGE 3. Experienced operators should have a minimum of 1 year's experience. Trainees should have relevant academic qualifications.

Contact Chris Carter on 01-226 1234 Ext. 216 or 218 for further details or write to Director of Finance, Town Hall, Upper Street, London N1, 2UD quoting reference F200. Closing date 1st May, 1980.

OUR TRAINEE/OPERATOR RACE AND BOTH SEXES

1540

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Software opportunities in Holland

in computer controlled telecommunications systems.

Increasing world sales of our public telephone switching systems (for instance a recent large order from Saudi Arabia) confirm Philips' position as one of the world leaders in this field. This, plus enhancements and additions to the range of switching systems, has created vacancies within the International development team working on these systems.

The development effort extends into the field of space and time division switching systems for local and trunk application and maintenance and network management centres. The work will include real time telephony applications, basic operating systems, general support and project generation areas.

That is why we are now looking for a number of

systems designers and systems programmers

To join our headquarters organization in Hilversum, Holland.

Systems Designers should have at least 2-3 years experience in real time or control systems software design.

Systems Programmers should have at least 2 years assembler language experience or experience in the high-level scientific programmer languages.

Attractive first class salaries will be offered.

In addition fringe benefits include:

- subsidized housing in an attractive area in Holland ('the garden of Amsterdam')
- profit sharing
- full relocation expenses
- settling in allowance
- contribution towards medical insurance costs.

The working language is English. Both permanent and temporary (3-4 years) opportunities are available.

Interested? Do not hesitate to ring or write in full detail to Mr. Harry Constantine in our U.K. laboratory on Malmesbury 2861, ext. 266. Full address: Pye-T.M.C. Ltd., Ekco Works, Swindon Road, Malmesbury Wiltshire SN16 9NA for further information or write to: Philips' Telecommunications Industrie B.V., personnel department, attn. Mr. Ben van Dijk, p.o. box 32, 1200 JD Hilversum, The Netherlands.

PHILIPS



Telecommunications

ABC TRAVEL GUIDES LTD

(a member of IPC Business Press Limited)

require an experienced

DATA CONTROL CLERK

for their Computer Production Control Department in Dunstable. Duties include the setting-up and maintenance of Job Control, work submission via an ICL 7503 terminal and distribution of output. The RJE is linked to ICL 2960 (DME) and 2972 (VME) computers.

Applications are invited from those with I/O or operations experience within a medium/large computer installation, but priority will be given to applicants able to demonstrate their knowledge of JOSTICS and/or SCL.

As one of the world's leading producers of timetables for the airline industry, much of the work is geared to important deadlines. The ability to work under pressure for extensive periods is therefore essential. There is no shift work and overtime is payable at the usual rates.

The importance of this interesting and demanding position is reflected in the salary, which will be £13,140 p.a. (minimum) from 1st April and there is scope for progress within this expanding organization.

For an application form ring:
Pam Brooker, Dunstable (0582) 600111 ext.
1540

Systems Programmers

with or without DEC experience

The Scientific Division of ISA-UK provides a specialised service to the scientific and engineering community as well as a general time-sharing scientific language like Fortran. Although you should have experience of an assembler and time-sharing, you probably won't have had experience of large DEC machines, but we are willing to train the right person, so that you can become part of the Philips' team which keeps it years ahead.

As well as good working conditions in Croydon — and we will help you with relocation expenses — we offer 5 weeks

implementing, testing and maintaining of manufacturers' software releases. • £6,500 p.a. + training! We are looking for someone with a scientific background and an interest

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Analyst/ Programmers for Inspec

c £7,500

INSPEC is developing a new system to maintain its lead in the production of bibliographic databases, text handling, computer composition and typesetting.

The system is based on a PDP 11/70 under RSX 11M with on-line data entry and amendment of bibliographic data on VT100 or extended-character-set Logica terminals with proof-printing on a Versatec electrostatic plotter printer. The on-line system will act as the front end to the existing 2966 under EMU due to be upgraded in 1981.

There are vacancies for programmer/analysts with design and programming experience in ICL/IBM assembler and high-level languages keen to apply their skills to the problems of developing the new on-line system and communications between the existing machines and future replacements. Experience of ICL/PDP 11 equipment and of text handling of bibliographic systems is an advantage but not essential.

These posts are open to male and female applicants who will work in pleasant offices at Hitchin in rural Hertfordshire. Competitive salaries, with twice-yearly increases are offered together with job security and satisfaction in a friendly, professional atmosphere. Benefits include a 35-hour week on flexitime, 20 days annual leave, attractive promotion and life assurance schemes, subsidised meals, luncheon vouchers, a sports and social club and assistance with relocation.

INSPEC is a department of the Institution of Electrical Engineers and has been operating its computer-based abstracts database system for over eleven years.

CVs or requests for an application form should be addressed to:

Personnel Manager



Financial Services Department
Programmer/Analyst
£5378-£5706 (inclusive)
Salary Award Pending

Following internal promotion we have a vacancy for a Programmer/Analyst based in our Computer Section at the Town Centre, Harlow. The Council operates a 40K ICL 2904 with EDPS 60 and magnetic tape together with a communications system comprising of some twenty terminals based upon ICL 7502 and Philips PTS 6000 equipment with plans for further enhancement.

Applicants should possess a minimum of two years' overall computer experience preferably on ICL machines using COBOL.

A flexible scheme is in operation. Housing may be available, full removal expenses paid, travelling expenses, lodgings allowance, legal and re-location expenses available in appropriate cases. Sports and Social Club.

Application forms and job descriptions are available from the General Manager's Department, Harlow District Council, 17 Adams House, The High, Harlow, Essex CM20 1BD. Telephone Harlow 26662, ext. 66. Closing date: 18th April, 1980.

(480)

THE OPEN UNIVERSITY
FACULTY OF TECHNOLOGY

ASSISTANT SCIENTIFIC OFFICER Computing Unit

The Computing Unit exists to run the Faculty's Computing facilities and to provide an advisory and support service to staff, particularly those engaged in research. The Unit requires an additional ASO with specialist knowledge in the hardware and software aspects of MICROPROCESSORS and their applications. The ASO should be prepared to assist staff from any of the disciplines: Materials, Engineering Mechanics, Electronics, Design, Systems or the Energy Research Group.

Applicants should have a degree or equivalent in computer science, or a related field, and preferably 2 to 3 years' experience in, for example, an R & D department in an industrial, university or government environment.

Salary will be on the 1B scale for Research and Analogous staff, £4,402-£5,399 plus pension benefits, over 8 weeks holiday and good sporting/social facilities.

Application forms and further particulars are available from Mrs. A. F. Torr (4087/2), Faculty of Technology, The Open University, Walton Hall, Milton Keynes, or telephone Milton Keynes 653880, there's a 24-hour answering service on 653888.

Closing date for applications: 1st May.

THE BUFFOLK COLLEGE OF HIGHER AND FURTHER EDUCATION
Required for September 1980:
LECTURER GRADE 2 IN ELECTRICAL ENGINEERING-MICROELECTRONICS
(Post Number 4.18)
Requiring experience of the software and/or application of micro-processors.

LECTURER GRADE 2 IN COMPUTER STUDIES
(Post Number 4.28)
Requiring experience of data processing and computing in a business setting.
SALARY SCALE — £4806 to £7688 p.a.

For an application form and further particulars please apply to: The Suffolk College of Higher and Further Education, Ropps Walk, Ipswich IP4 1LT, to whom completed forms should be returned by 21 April, 1980. Please quote the appropriate Post Number. (484)

TELECOMMUNICATIONS
A Technical Representative, preferably with relevant academic qualifications, is required by an International Record Carrier. Someone able to discuss with our engineers, customers and suppliers, lease circuits and associated telegraph FDM and Data Techniques. Also required is the ability to prepare system proposals for submission to the customer. Experience of British Post Office approval exercises would be an advantage.

An interesting opening in an expanding company — salary realistic for the right person. Please apply with full C.V. to Box 1089. (548)

Electronic Office Products

Product Manager
c. £15,000+car.

Sales Engineers
c. £12,000+car.

London Area.

Our Client is an established leader in the manufacture and supply of communications terminals and products to users of international telex, and telecommunications networks. Additional sales personnel are required to sell exciting new products to OEM and end user accounts.

A Product Manager is required to be responsible for sales of an intelligent-micro programmable-telex interface for word processors, mini-computers, message switching systems etc. The ideal candidate will have a proven track record in the sale of mini-computers, communications peripherals or terminal systems.

Sales Engineers are required for an extensive range of telex compatible communications devices. This is an ideal opportunity for suitably qualified electronics engineers or experienced sales engineers to join a small, growing company with excellent promotion prospects.

Full product training will be given. Quoted earnings are based on a generous basic salary with commission based on realistic quota objectives.

Apply in confidence to Terry Harvey, or contact him for an application form. Evenings Gt. Missenden (02406) 4705 or office hours as below.



Harvey Recruitment

Executive and Computing Personnel Consultants
500 Chesham House, 150 Regent Street, London W1R 5FA. Tel: 01-734 5351

Simulator Engineer and Technician

Two challenging roles for down to earth professionals

Simulator training is the most economical and effective means of putting pilots through their paces. Such are the demands of flying today that Britannia Airways' 6-axis Boeing 737 flight simulator, fitted with a computer generated image, is in constant use around the clock.

We're an airline that's going up in the world. We are growing in almost every aspect of our business and the simulator section now includes a 737 cockpit procedures trainer that will exploit the value of the flight simulators even more.

We now require two experienced professionals with a down to earth approach to their work to join a small informal team at our main base at Luton.

Simulator Engineer c. £7,500 + shift premium.

Our need is for a proven electronic/computer engineer preferably with experience of one of the following functions: programming, hydraulics, or aircraft systems.

Electronic Technician c. £6,800 + shift premium.

You could be from almost any area of electronics, but an ONC would be an advantage together with a knowledge of digital electronics, PCB assemblies etc.

In addition to attractive salaries we offer all the benefits normally associated with a successful airline.

Please send full details of your background and experience to Personnel Controller, Britannia Airways, Luton Airport, Luton LU2 9ND. Telephone: Luton (0582) 424155

**Britannia
Airways**

WILTSHIRE COUNTY COUNCIL ASSISTANT COUNTY TREASURER (COMPUTER SERVICES)

SALARY: £12,921 x £297 [3]-£13,812

The County Council operates an IBM 3031 (jointly owned with Thame Down Borough Council) with many terminals. The computer carries out a wide range of applications for various departments of the County Council and for a number of other authorities including the Area Health Authority. More than half the applications currently processed are non-financial and there are plans to extend the services provided.

The successful applicant will be directly responsible to the County Treasurer for the management of the Computer Division (60 staff) and the co-ordination of all the Council's computer services.

Assistance towards removal and relocation expenses in approved cases.

Further details may be obtained from the County Treasurer, County Hall, Trowbridge, Wilts. BA12 8JJ. Telephone Trowbridge 3641 Ext. 2608 (Mrs. Thorn), to whom applications, with full details of age, education, qualifications and experience, together with the names of two referees (one of which must be the current employer), should be returned by the 8th May, 1980.

(480)

Eng. PROGRAMMER Middx. Programmer with experience of COBOL or PL/I to join small team within large organisation. ICL hardware.
To E&K SYSTEMS ANALYST S. London Required to develop accounting systems. You will need 3+ years experience, to include design and implementation of at least one commercial system.
E&K PROJECT LEADER London Good programming and analysis ability, with several years experience on Honeywell, IBM or ICL hardware in a commercial environment.
Many more unadvertised positions
16 FINCHLEY ROAD, LONDON NW3
Telephone 01-794 0202

COMPUTECAT 61/794 GZ02

Operations Manager

for new Computer Centre

Epsom Circa £8,000

The Thomas Borthwick Group is a leader in the international meat business with annual sales approaching £600M. They are forward looking and have recently established a computer centre; based on a dual Univac 90/30 configuration with communications to service their London International Headquarters, operating divisions and depots throughout the UK. Planned further growth and an increasing demand for the centre's facilities have created the need for a young and ambitious operations professional to join the management team.

You would be responsible for the control and administration of a small department, together with playing a growing role in formulating future DP policy; particularly with regard to the purchase of additional hardware and setting of operational standards.

Preferably living locally, you should have a minimum of 5 years in operations with at least 2 years in a supervisory role. Able to communicate with management and users alike, personality and ambition are more important than specific hardware experience. Communications knowledge would be desirable.

This position offers long term career opportunities in a successful and expanding company committed to D.P.

For further information please contact: Andrew Carter on 01-935 0671.



Specialist Computer Recruitment Ltd

London 01-935 0671 3 Mandeville Place, Wigmore Street, London W1M 5LB
Birmingham 021-236 3781 35-37 Great Charles Street, Queensway, Birmingham B3 3JY
Manchester 061-833 0427 Blackfriars House, The Parsonage, Manchester M3 2JA
Brussels 010 322-640 7151/71 Avenue Louise 327, Boite 4, 1050 Bruxelles

CONTRACT PROGRAMMING Big Pay, Big Selection

up to £300 p.w. plus all the advantages of being on contract

MIDLANDS

7 big paying special programming contracts.
£200 per week, Midlands.
Special rates negotiable for very experienced applicants.

To many attractive middle England (if you have IBM 3031 OS/VS and lots of analysis this is a good paying and interesting contract). In Midlands experience and background, you are ideally qualified for this contract. The money is good but we need ability. Ask us now for what must be the best opportunity of the year. Don't delay as there will be a lot of interest.

£200 per week, Midlands.
If you have IBM 3031 OS/VS and lots of analysis this is a good paying and interesting contract. In Midlands experience and background, you are ideally qualified for this contract. The money is good but we need ability. Ask us now for what must be the best opportunity of the year. Don't delay as there will be a lot of interest.

£200 per week, North East.
Over the country we've opportunities for substantially increasing your money if you've got HW46 CICS/LDS after TMS 380/1. Take your pick from top jobs, top money. If you have COBOL and can work in purchase supply and cost monitoring systems for a variety of contract clients ring us now. Select your contract period.

£200 per week, North.

Why not have a change from the usual and enjoy good pay, good working conditions. ICL 2904 on line COBOL experience or command level CICS. Structured programming is required.

If you have all this experience, we need you especially with COBOL and CICS.

Ask us now for what must be the best opportunity of the year. Don't delay, ring us now and you'll soon be spending a week in Wimborne.

NORTH

The earnings you have promised
yourself are here.

£280 per week.

You are a structured programmer with IBM PL/I CICS and Aldens Router Knowledge.

Come and be highly paid in the North West and then be able to go to North Wales and the Lake District in a couple of hours. There are three months plus contracts waiting for you.

£270 per week.

You are a Senior Programmer and always thought about going to the North West. You know about IBM 370/16 DS/VS and 3 years COBOL with sound experience of command level CICS. Structured programming is required.

If you have all this experience, we need you especially with COBOL and CICS.

Ask us now for what must be the best opportunity of the year. Don't delay, ring us now and you'll soon be spending a week in Wimborne.

Phone now for more information, an informal interview or meeting for this very special opportunity.
RING Manchester 061 833 9341 5 (24 hours) Birmingham 021 643 8867 (24 hours)

KNIGHT PROGRAMMING

Knight Programming Support Ltd, Admirals House, Shambles Square, Manchester M3 1RE, and

Kingston House, Scott Street, Queen's Square, Birmingham B1 2AA.

Europe's largest data processing recruitment specialists.

London 01-452 1600, Birmingham 021-236 4222, and New York

We've produced a guide to contract work just for you, pointing out all the things you have to know. Phone now for a copy of this special problem-solving leaflet. All you need to know about going contract the Knight Programming Way.

Knight Programming Security Deal

- All details are treated in absolute confidence.
- All meetings are completely informal where and when you request them.
- Full expenses for all meetings will be paid.
- Company account managers will give full confidential advice about data processing, management, investment and recruitment.
- Free and fast job contracts are given along with security and legal advice.
- Free and fast advice on data processing, management, investment and recruitment.
- Free and fast advice on data processing, management, investment and recruitment.

Computer Careers Oxford Circus

London Transport's Data Processing Department plays a vital part in keeping London on the move, using the latest hardware (IBM) and software on various locations by our own data communications network. Our projects cover the whole range of London Transport activities and new applications are constantly being developed.

In view of our expanding requirements we are seeking a number of new staff:

Programmers

Up to £14,500

depending upon experience.

Operators and Senior Operators

£4,670 to £6,000

At least nine months' George-Torrs AS experience essential.

Review date April

Our staff enjoy excellent career prospects in friendly working environment, good sports and social facilities and all the benefits of a central London location, plus FREE TRAVEL at all times on London Transport services and generous relocation on British Rail.

LONDON TRANSPORT

For more information and an application form telephone Deborah Bell on 01-222 5600 extension 611 or write to her for an application form to Staff Applications, London Transport, 35 Broadway, London, SW1H 0BD, quoting clearly the post which interests you, and quoting ref. 887.

GERMANY

to DM 65,000 p.a.

We are an established systems house specialising in the real time application of mini computers to process control, communications and terminal based systems. Our German operation has built up an excellent reputation for high quality work which has led to an increasing demand for its services.

As such we are looking for analysts/programmers to join our permanent staff for work on a variety of interesting and demanding projects.

The computers we are working on include DEC Honeywell Ferranti Data General TI AEG Siemens Motorola Intel

Among the many benefits you will have working for an English company in Germany are:

- Profit sharing
- Travel allowance or company car
- Attractive holiday arrangements
- Free language tuition
- Removal and settling in allowance

You will also enjoy a choice of good living accommodation with minimal commuting, and the advantage of excellent connections to the rest of Europe for travel and recreation purposes.

Additionally, we have vacancies in our London and Manchester offices.

Please reply to Roy Stedman, DAI GmbH, Herzogstrasse 61, 6078 Neu Isenburg, FRG. Tel: 06102-38386. Ms. Kristin Jev, DAI Ltd., Axell House, 24 Warwick Street, London W1R 5BB. Tel: 01-734 5486 ext. 31. Patricia Hewitt, DAI Ltd., Alpha House, Rowdonway, Wythenshawe, Manchester M22 5RG. Tel: 061-436 3122.

DAI

COMPUTER OPERATIONS MANAGER

£7,524-£8,334

Weybridge

For Brooklands Technical College, Heath Road, to take charge of the day-to-day running of the new UNIVAC V7/1600 192K, 12 terminal multi-access system which will provide a service to the College in respect of existing specialist computer courses and support for many others.

The Post should suit a man or woman who has previous experience as an analyst/programmer and now wishes to develop management expertise.

Benefits include generous assistance with relocation, 22 days paid leave per annum and a pleasant environment in which to work, with an experienced team of computing staff.

Further details and an application form from the Chief Administrative Officer, but people wishing to discuss the Post beforehand should telephone Mr Alan Bear, Weybridge 63300, extension 247.

(600)



Systems & Programming Manager

Middlesex

to £11,000

A major company in the fast moving consumer industry has recently replaced its existing computer facility with Honeywell's latest machine.

A Manager is now required to transfer programmes to the new system and develop fresh applications.

This is an outstanding opportunity for candidates with a sound background in systems and programming, to work in a progressive and expanding company using the latest technology.

Prospects of promotion are excellent together with a number of benefits one would associate with a company of this standing.

Candidates, male or female, please write or telephone D. D. Linstead,

G-B Management Services

Management Consultants
170 Piccadilly, London W1V 9DD 01-499 5308

Athens — Greece Analyst-Programmer Greek National

We are a major Greek general contracting company, operating both in Greece and abroad. Our EDP Dept. is located in Athens and is equipped with an on-line computer system based on a General Automation 16-480 mini computer.

Up to now we have been involved with the development of on-line commercial type of applications, but we have already started implementing a small DBMS of our own design. We are looking for a Greek national analyst-programmer willing to return to Greece. He should preferably have Cobol background and some experience on mini-based on-line commercial applications. Some systems management experience and/or DBMS knowledge would be advantageous. Nevertheless, Computer Science graduates without relevant experience will also be considered.

Salary is negotiable according to qualifications and experience, but within the Greek standards.

Please write stating full details of academic and commercial experience to:
Mr. Nicolas Dimitsiris
c/o SIKAT CORPORATION
P.O. Box 22 Kifissia, Athens, Greece
Telephone: 0030/1-682 5700

ASSEMBLER PROGRAMMER WANTED

80/80 AND UPWARDS BY PROGRESSIVE SYSTEMS
COMPANY IN DERBY FOR INTERESTING PROJECTS

URGENT

PHONE DERBY (0332) 372204

(600)

Manchester Business School & London School of Economics New approaches to Systems Analysis & Design

COURSE TUTORS:

Professor Enid Mumford, M.A., Ph.D., C.I.P.M.
Frank Land, Senior Lecturer in Computing
Science, London School of Economics

A two-day seminar for systems analysts and users in administration, commerce and industry who are interested in techniques to assist user involvement in systems design and in improving user job satisfaction through good design.

SEMINAR DATES:

MBS 9th and 10th June 1980
LSE 16th and 17th June 1980

For further details, please cut out this advertisement,
insert your name, address and tel. no. below and post to:
Professor Enid Mumford, Manchester Business School,
Booth Street West, Manchester M16 8PB Tel. 061-273 8228

Name

Position

Co. Address

Tel. No.

COMPUTING SERVICES UNIT

S/945

Senior Systems Programmer

Reporting direct to Head of Unit. Will be responsible for the programming support provided by the unit and supervise 8 Programmers. Applications will be given for a wide range of work involving systems analysis, design and staff supervision. Five years' sound programming experience of the ICL 1800 range using GEORGE 2, and preferably MAXIMOP, is essential. Experience of PLAN, COBOL and ICL will be also required. Knowledge of FORTRAN, BASIC and other languages will be an advantage.

The current system is a 64K ICL 1902T using GEORGE 2 and MAXIMOP Planning for a replacement system in hand.

Salary scale £7.27-£8.38

A Union Membership Agreement is in operation under which new employees are required to join a recognised union.

There is a 25% contribution to pension by the employer.

For further particulars and application form (returnable by 18 April, 1980) please send a self-addressed envelope marked with the appropriate reference number to the Secretary, Manchester Polytechnic, All Saints, Manchester M16 8BH.

(513)

S/946

Senior Programmer

Must be graduate with at least 3 years' proven programming experience of the ICL 1800 range and be capable of supervising a team of programmers. Applications will be given for a wide range of work involving systems analysis, design and staff supervision. Good knowledge of FORTRAN and preferably Algol, PASCAL or CORAL, or a programme to be responsible for the maintenance and/or advice to users on application software, including SPSS, NAG, PAFC, compiler generation and assembly language. Good communication skills also required.

Salary scale £7.27-£8.38

A Union Membership Agreement is in operation under which new employees are required to join a recognised union.

There is a 25% contribution to pension by the employer.

For further particulars and application form (returnable by 18 April, 1980) please send a self-addressed envelope marked with the appropriate reference number to the Secretary, Manchester Polytechnic, All Saints, Manchester M16 8BH.

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manchester
polytechnic

UNIVERSITY OF EDINBURGH Department of Computer Science and Department of Electrical Engineering

LECTURESHIP IN MICROPROCESSOR APPLICATIONS

Applications are invited for appointment from 1 October, 1980, to a new lectureship in Microprocessor Applications. The post is in the Department of Electrical Engineering and the School of Computer Science. Duties will involve special interests in data processing and systems analysis. The main areas of application will be in the field of microprocessor based systems, economic, geographical modelling, psychology and survey analysis, but it is necessary that applicants be interested in the application of microprocessors to the whole range of social sciences taught at the University.

Applicants should have a first class honours degree in a discipline related to the above.

Further particulars and application form may be obtained from the Secretary, Department of Electrical Engineering, Edinburgh EH8 9JZ.

Salary scale £7.27-£8.38

Applications should be sent to the Secretary, Department of Electrical Engineering, Edinburgh EH8 9JZ.

Further particulars and application form may be obtained from the Secretary, Department of Computer Science, Edinburgh EH8 9JZ.

Salary scale £7.27-£8.38

Applications should be sent to the Secretary, Department of Computer Science, Edinburgh EH8 9JZ.

Further particulars and application form may be obtained from the Secretary, Department of Computer Science, Edinburgh EH8 9JZ.

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